

## Knowledge of Primary Eye Care among Selected Primary Health Care Workers in Rivers State, Nigeria

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### Abstract

**Objective:** To assess the knowledge of primary eye care (PEC) among selected primary health care (PHC) workers in Rivers State, Nigeria.

**Materials and Methods:** The study was an observational cross-sectional study carried out among 31 PHC workers in Rivers state, Nigeria. All participants had a pre-test, followed by training on PEC and a post-test afterwards.

**Results:** 48.4% of participants were doctors (general practitioners). Other participants were nurses, Community health officers and Health information officers. 83.9% of participants had good scores in the pre-test prior to the training and there was a statistically significant difference in the mean scores at pre-test and post-test.

**Conclusion:** The knowledge of primary eye care among primary health care workers will likely improve with regular on-the-job training.

**Keywords:** Primary Eye Care (PEC); Primary Health Care (PHC); Health Information Officers; Community Health Officers

### Introduction

Primary eye care refers to basic eye care delivered to individuals in the community at the first point of contact with the health service, usually by health care workers in primary level health facilities [1]. Primary Eye care is an integral part of primary health care. The International Agency for the Prevention of Blindness (IAPB) defines PEC as “an integrated, participatory and inclusive approach to the eye health component of PHC consisting of promotive, preventive, curative and rehabilitative services” [2]. The importance of PEC and PHC lies in its proximity to individuals and communities, which is evident in the global attention on strengthening PHC towards improving health systems and the tremendous success it has recorded in certain parts of the world [3,4].

In Nigeria, according to the Nigerian National Blindness and Visual Impairment Study, the prevalence of blindness in Nigeria is 4.2%, most of which are avoidable causes of blindness such as cataract, glaucoma, uncorrected refractive error and trachoma [4-6]. In Rivers state, the prevalence of bilateral blindness is 1.26% [7]. These causes of blindness can be eliminated or minimised through timely and

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appropriate interventions which can be made available through primary eye care available at PHC [8]. Integration of PEC into PHC is very important in terms of preventing avoidable visual impairment [9]. PEC is concerned with promotion of eye health and prevention of blindness.

Eye care is mostly delivered at secondary and tertiary levels in urban areas, leaving rural populations under-served [2,10]. The World Health Organization’s (WHO) Global Action Plan 2014-2019 [11] and the World Report on Vision [12] advocate integrating eye care into primary health care (PHC) as a component of Universal Health Coverage, which could contribute to reducing this inequity in access. The main tasks of PEC worker include health education, identification and treatment of common eye conditions, recognise and refer conditions beyond the scope of PEC to secondary or tertiary levels of care.

In Rivers state Nigeria, PHC workers comprise of general practitioners (Medical doctors), nurses, optometrists, community health extension workers, community health officers, pharmacy technicians, lab technicians, health information officers. PHC workers can play a significant role in PEC if they are adequately trained and well motivated. In Nigeria, there are guidelines for the scope of practice of PEC as contained in the standing orders for her PHC workers [13], yet there is paucity of literature regarding the knowledge of PEC among PHC workers.

**Aim of the Study**

This study therefore aims to bridge that gap and assess the knowledge of PEC among PHC workers in Rivers State.

**Materials and Methods**

This study is an Observational cross-sectional study carried out among selected PHC workers during a training on PEC at the Rivers State Primary HealthCare Management Board, Port Harcourt, Rivers State, Nigeria. A total of 31 PHC workers were involved in the training. Participants were selected from PHCs across the 23 Local government Areas of Rivers State. Training held between the 16<sup>th</sup> - 18<sup>th</sup> August 2023. Participants were given a pre-test before the commencement of the training and a post-test at the end of the training. Test questions explored their knowledge on common eye diseases, first aid measures and treatment protocols at PHC level.

Scoring grade used for the study:

- Greater than 70% - very good knowledge.
- 50 - 69% - good knowledge.
- Less than 50% - poor knowledge.

Data was analysed using Statistical package for social sciences version 24. Results were represented using tables. Means and standard deviation was used to summarise the pre-test and post-test scores while student t-test was used to compare the means. Confidence interval was determined at 95% level and statistical significance set at  $p < 0.05$ .

**Results**

Cadre of participants	Frequency	Percentage (%)
Doctors	15	48.4
Nurses	6	19.4
Community Health officers	5	16.1
Health Information officers	5	16.1
Total	31	100

**Table 1:** Cadre of participants.

Scoring grade	Pre-test	Post-test
Poor	5 (16.1%)	3 (7.4%)
Good	26 (83.9%)	10 (25.9%)
Very good	0 (0.0%)	18 (66.7%)
Total	31 (100.0%)	31 (100.0%)

Table 2

	Pre-test Mean ± SD	Post test Mean ± SD	T	P-value
Scores	55.0 ± 13.3	67.5 ± 10.7	10.674	< 0.001*

Table 3: Mean scores for pre-test and post-test.

\*Significant at 95%; SD: Standard deviation; t-t test statistic.

Table 3 reveals that there is a significant mean difference between the mean scores at pretest (55.0 ± 13.3) and at Post-test (67.5 ± 10.7) using student t-test as the P-value (< 0.001) is less than 95% level of significance.

### Discussion

This study looks at the knowledge of Primary eye care among PHC workers in Rivers state, Nigeria. Medical doctors (general practitioners) accounted for the highest proportion of participants with 48.6%. Other PHC workers who participated comprised of nurses, community health officers and health information officers.

83.9% of participants had good scores in the pre-test which shows that the participants had good knowledge of PEC even before the training. This could be because the largest proportion of participants were doctors who already have basic training in eye care as part of their medical training. This is similar to findings by Azonobi., *et al.* where medical doctors have better knowledge of eyecare compared to other health care professionals [14]. Abdulrahman., *et al.* in their study found that 68.7% of study subjects had good scores [4]. However, their study was among only CHEWS. Another study in Ethiopia found that 96.4% of participants had good knowledge of PEC and were able to identify community eye problems [8].

In this study, there was a statistically significant difference in the mean scores at pre-test and post- test which signifies that the knowledge of participants improved after the training from pre-test to post-test. This shows that if given additional on-the-job trainings on PEC to PHC workers, their knowledge would improve and they will be able to render PEC services more effectively. This is in keeping with findings by other authors in different parts of Nigeria [4,14,15]. However, a study in Tanzania found no association between having received training and skills score and therefore suggested reassessment of the roles and responsibilities in primary eye care of dispensary health workers, review of training curriculum and teaching, and supervisory procedures [16]. We therefore recommend periodic retraining of primary health care workers on primary Eye care to improve the quality of service delivery.

### Limitations of the Study

The small number of participants in this study may limit generalizing the findings to all parts of the country and beyond. Also, the cadre of selected participants for the training was not evenly distributed among all PHC workers.

### Conclusion

The findings in this study showed that with the knowledge of primary eye care among primary health care workers is likely to improve with regular on-the-job trainings.

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